

STICTODORA UBELAKERI A NEW SPECIES
OF HETEROPHYID TREMATODE
FROM THE CALIFORNIA SEA LION
(ZALOPHUS CALIFORNIANUS)*

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ABSTRACT: *Stictodora ubelakeri* sp. n. (Digenea: Heterophyidae) is described from the small intestine of the California sea lion (*Zalophus californianus*). It differs from other members of the genus in body size, shape and size of seminal vesicles and absence of esophagus. This is the first report of this genus from a marine mammal.

INTRODUCTION

While conducting a survey for helminth parasites found in the California sea lion, a large number of heterophyid trematodes were recovered from the small intestine of a female *Zalophus californianus* (Lesson, 1828) found dying in Alamitos Bay, California. The sea lion was approximately 1.5 years old and was suffering from a massive lungworm infection.

The worms were identified as belonging to the genus *Stictodora* (Looss, 1899). This genus currently contains 13 species (Yamaguti, 1958) and has been reviewed by Cheng (1951). It has also been considered in a key constructed by Witenberg (1953). Members of this genus have been found in the small intestine of certain piscivorous birds, dogs, cats and experimentally in rats and mice. This is the first report of a natural infection in a marine mammal.

MATERIALS AND METHODS

The worms were removed from the intestine, washed, fixed in AFA (10 parts formalin, 50 parts 95 per cent ethanol, 2 parts glacial acetic acid and 40 parts distilled water) and Bouins solution. Sectioned worms were cut at 8μ and stained with hematoxylin-eosin. Whole mounts were stained in Semichon's carmine or celestine blue B, dehydrated in ethanol, cleared in xylene, and mounted in Piccolyte. Drawings were made with the aid of a drawing tube. All measurements are given in microns unless otherwise stated. Average measurements are presented with ranges in parentheses.

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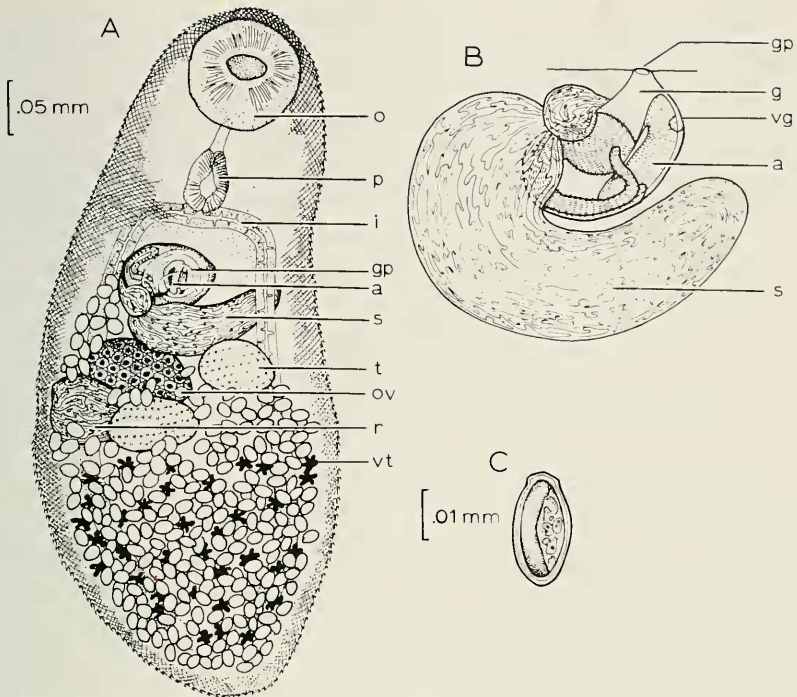


Figure 1. *Stictodora ubelakeri* n. sp. A. ventral view of entire worm. B. Semi-diagrammatic enlargement of gonotyl complex. C. egg. Abbreviations used: a — acetabulum; g — gonotyl; gp — genital pore; i — intestinal caeca; o — oral sucker; ov — ovary; p — pharynx; r — seminal receptacle; s — seminal vesicle; t — testis; vg — ventro-genital sac; vt — vitellaria.

OBSERVATIONS

Stictodora ubelakeri, n.sp.**

(Fig. 1, A, B, C)

Description based on measurements from twenty-five specimens.

Diagnosis: Body pyriform, 765 (510-968), body width 370 (278-515). Cuticle covered with scale-like spines over entire body. Oral sucker circular and subterminal, 52 (40-67) long by 56 (47-65) wide. Prepharynx 22 (10-47) in length. Pharynx 59 (34-78) long by 50 (39-68) wide. Esophagus lacking. Intestinal caecae extending to posterior end of body. Gonotyl and acetabulum enclosed in ventro-genital sac. Gonotyl oval, 101 (78-114) by 79 (65-94) wide, armed with a semicircle of numerous, very fine spines at posterior end. Acetabulum attached to wall of ventro-genital sac and measures 67 (52-85) long by 33 (28-37) wide in seven sectioned specimens. Genital

**This species is named in honor of Dr. John E. Ubelaker.

pore median, approximately at posterior of anterior one-third of body. Testes two, at or slightly posterior to mid-body, 90 (78-104) long by 48 (40-67) wide. Seminal vesicle large, consisting of two chambers, one large and one small. Ovary oval, dextral, between right testis and seminal vesicle, 99 (78-114) long by 36 (29-41) wide. Seminal receptacle well-developed, dextral, between ovary and right testis, frequently as large or larger than ovary. Vitellaria entirely post-testicular extending outside cecal field. Eggs, in fixed and stained specimens, oval, operculate, yellowish brown, 30 (29-31) long by 15 (14-16) wide.

Host: *Zalophus californianus*.

Location: Small intestine

Holotype and Paratypes: USNM Helm. Coll. No. 70423, 71418.

Locality: Southern California, U. S. A.

DISCUSSION

Stictodora ubelakeri does not closely resemble any one species of the genus but has features similar to several previously described forms. In body shape and size it is similar to *S. mergi* (Yamaguti, 1939) but differs in almost all other respects. The placement of ovary, testes, and seminal receptacle approximates that described for *S. lari* (Yamaguti, 1939) and *S. diplacantha* (Johnston, 1942) in that all three have the seminal receptacle located between the ovary and right posterior testis. *S. ubelakeri* differs from these species in length of esophagus, shape of seminal vesicle, type of acetabulum and gonotyl. The seminal vesicle of *S. ubelakeri* resembles that described for *S. sawakinensis*, (Looss, 1899) all other members of this genus have more than one constriction. However, these two species differ in body size, esophagus length, placement of vitellaria, placement of testes and seminal receptacle. The attachment of the acetabulum to the ventro-genital sac most closely resembles that described for *S. tridactyla* (Martin and Kuntz, 1955). However, there are no other similarities between these two species. The spination of the gonotyl consists of numerous, uniform, fine spines covering a large, bulbous, stationary pad which extends around the acetabulum to an unattached free surface. This feature and lacking esophagus are unique to *S. ubelakeri*.

SUMMARY

A new species, *Stictodora ubelakeri*, is described from the small intestine of a California sea lion, *Zalophus californianus* (Lesson) 1828, collected in southern California. It differs from other members of the genus in body size, shape and size of seminal vesicle and absence

of esophagus. This is the first report of this genus from a marine mammal.

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